

United States
Department of
Agriculture

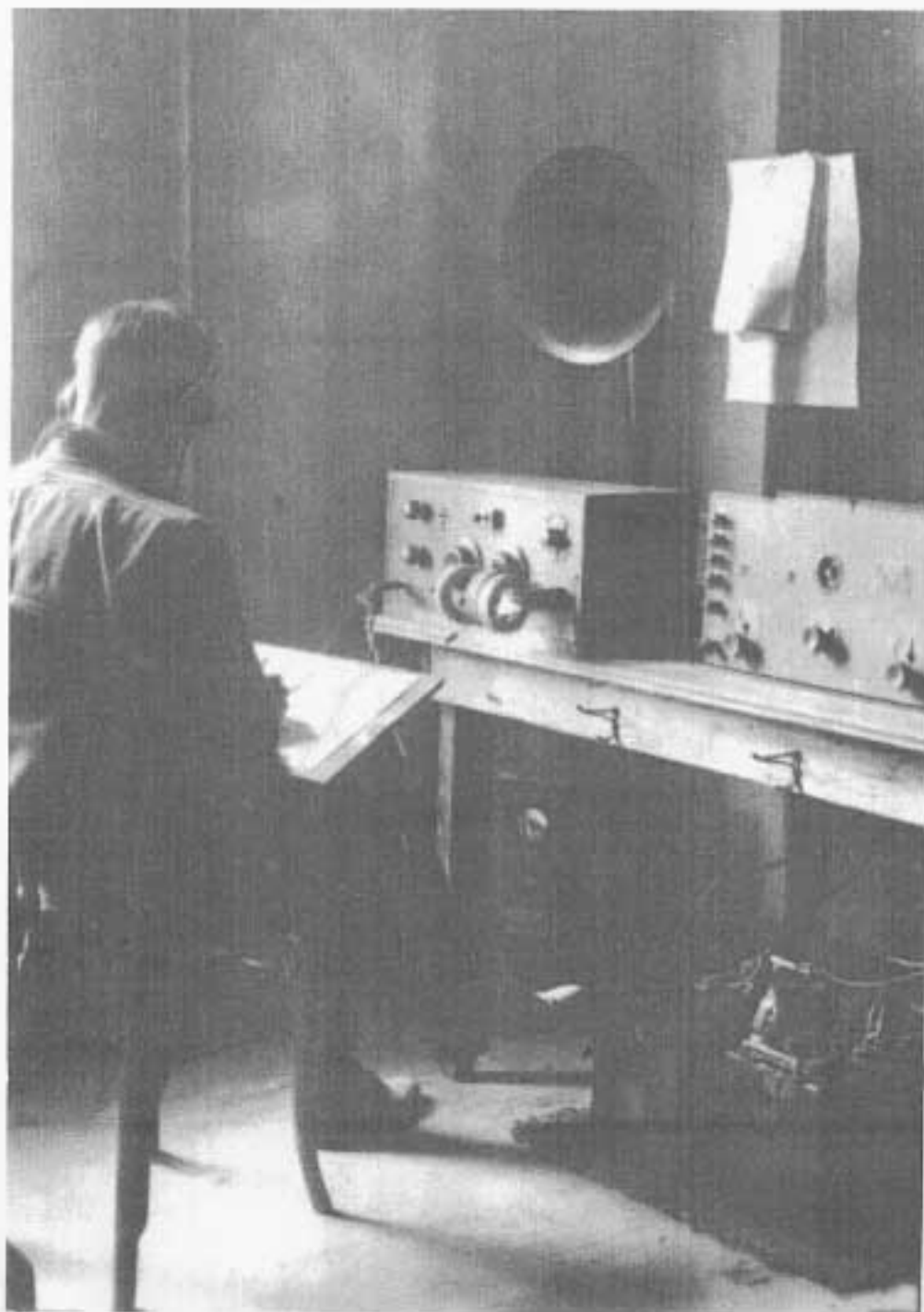
Forest Service

FS-367



The Gisborne Era of Forest Fire Research

Legacy of a Pioneer



End of an Era 1949

If what I have contributed so far has been good, it is well to consider where and how I obtained the background information and attitudes. I got it by living in the field in daily contact with field conditions....[120]

In August 1949, a serious fire erupted on the Helena National Forest in Montana. Forest Service smokejumpers and other firefighters rushed to the scene, but the conflagration was soon beyond human control. On August 3, the Mann Gulch fire swept over a crew of 16 firefighters (all but one were smokejumpers) and killed 13 of them.[121]

Gisborne was not present at the scene of the fire, but he soon became involved in the Service's attempts to discover why the disaster happened. By



Figure 40.—In this 1949 photo with Gisborne, at left, are Charles L. Tebbe and Arthur A. Brown. Tebbe was Station Director from 1946 to 1950 and soon after became Northern Regional Forester. Brown was Fire Control Chief at the Denver Regional Office before going to Washington, D.C. (headquarters), where he became Fire Control Chief in 1947 and Fire Research Chief in 1950.

(Gisborne collection)

mid-fall, he had reviewed all available reports on the fire and was trying to develop a theory of how the blowup could have occurred. On the recommendation of a special board that studied the tragedy, Gisborne was directed to study the matter and report his findings. He believed, as he had throughout his career, that he must examine the scene directly before coming to any valid conclusion. But the Station Director, Charles L. Tebbe, was more concerned for Gisborne's health. "Harry was not a young man," he later recalled. "Moreover, he had a heart condition and knew it.... Reluctantly I approved the trip but on condition that he make it and the inspection of the area and the fireline by jeep." [122]

On November 9, 1949, accompanied by a Forest Ranger, Gisborne left Helena in a jeep, planning to drive to the pass at the head of Mann Gulch and walk generally on a contour through the upper fire area. A slick, wet surface prevented that, so they drove to an adjacent gulch, from which point Gisborne insisted, over the Ranger's worried objections, on walking through the burned area. He promised to stop and rest every 100 yards, and did so. But late in the day, while starting to leave a resting place, Gisborne collapsed and died.[123]

When word reached the Station, according to Tebbe, "We were all stunned. I proceeded to do what he had asked me to do if anything of the kind ever happened. He had given me a key to a desk drawer he had always kept locked.... [R]ight on top was a large photograph of the south end of the Mission Range. It had been taken from the west side of the valley and showed a realistic profile of a reclining person. There were notes and pen lines all over the picture

which gave the viewer specific instructions respecting just where he wanted his ashes to be cast--'right in the old man's eye.'"[124]

A year later, the mountain on the Priest River Experimental Forest where Gisborne's remains rested officially became Gisborne Mountain. It was dedicated in 1951 with a bronze plaque bearing the inscription:[125]

HARRY T. GISBORNE

(1893 - 1949)

Inspiring, Enthusiastic, Far-Seeing

Pioneer in Forest Fire Research

Gisborne was the last of the pioneers of forest fire research, and one of the greatest. An era ended with his passing, and times have continued to change. Gisborne worked in a period when the



Figure 41.--Harry T. Gisborne in August 1949, a few months before his death.
(Gisborne collection)

Forest Service was almost overwhelmed by its fire control responsibilities, a time of nearly ceaseless emergency. He made it possible for the Service to reduce that emergency to its own capabilities and bring it under control. To Gisborne and his colleagues, fire research was forestry, and he remained a Forester throughout his career, taking his work outdoors and facing the problem on the ground. But the mass of manpower that came on the scene in the 1930's, followed by the great variety of power equipment a decade later, made the economics of fire control no longer as pressing as they had been in Gisborne's heyday, before the 10 a.m. policy made economics officially irrelevant. Fire research was no longer purely forestry after Gisborne's era. It involved physics, higher mathematics, and later, biology. The research eventually moved indoors, to laboratories and universities, where Gisborne's successors now examine fire as a phenomenon in its own right, without the economic and administrative demands that had burdened the pioneers. These changes would not have been alien to Gisborne--he had, after all, done much of the groundwork that made them possible.[126]



Figure 42.--Brass memorial plaque on Gisborne Mountain, formerly Looking Glass Mountain, 15 miles north of Priest River, Idaho, renamed in 1950 for the pioneer in forest fire research.
(Gisborne collection)

lieutenant colonel in the 20th Air Force during the war.

106. Northern Region News, July 26, 1946, carried an article describing the program at length. See also Barrows interview. The Air Force planes and personnel were based at Eglin Air Force Base, Florida, and remained in Montana only during the test seasons. The Eglin base was formerly the Choctawhatchee National Forest.

107. Annual Report, 1947; Northern Region News, July 25, 1947; numerous Forest Service and Air Force reports, documents, publicity materials, and press clippings, Gisborne Papers and Forest Service files, Missoula, Montana. Northern Region News reported on the tests and associated public ceremonies throughout the summer. See also Barrows interview. Crocker, in the 1976 interview, blamed conservatives in the Forest Service for killing the project. Brown, in the 1976 interview, however, related a meeting at the Pentagon where the message was delivered that "orders from above," presumably from the Secretary, ended it.

108. Memorandum, Gisborne to the Station Director, August 12, 1947, Gisborne Papers.

109. Annual Report, 1946. The entire program is recounted in the Annual Reports for 1946 through the early 1950's.

110. Annual Reports, 1947, 1948, 1949, and 1951. By 1951, as a result of Barrow's work (supported ultimately by additional personnel detailed by the Regional Office to work on it), rate of spread was redefined. It was presented in key form for seven cover types, and included a "flash" fuel rating for grass. As modified by time of day and position on a slope (from Hayes' altitude and aspect study) and Burning Index, these data offered a prediction of fire behavior through a process that became known as "calculating

the probabilities," one of Gisborne's lifelong goals.

111. Annual Report, 1947 and 1948; memorandum, Gisborne to Chief of Watershed Management, September 25, 1947, Gisborne Papers. Gisborne's division also gave some minor assistance to equipment and technique development research, including direction of a student, A. L. Haines, who studied tactical principles for aerial operations for a Master's thesis. Annual Report, 1949.

112. Annual Report, 1946.

113. Annual Reports during the period; Gisborne, "Calculating Precipitation Probabilities," The Timberman 49 (No. 10, 1948): 58. Gisborne also synthesized the knowledge he had gained during his career in a lecture for a 1947 fire-boss school, published as "Fundamentals of Fire Behavior," Fire Control Notes 9 (1948): 13-24. It was used in training for many years.

114. Annual Report, 1947.

115. Barrows and Brown interviews; Vincent J. Schaefer, interview with the author, summer 1976; Robert R. Johnson, interview with the author, April 28, 1976. Johnson was the owner and pilot of the C-47 used in 1948, and a long-time aviation contractor for the Forest Service.

116. Holograph memorandum, Gisborne to the files, August 21, 1949, Gisborne Papers. Schaefer, giving considerable credit to Gisborne and Barrows, reported on the project in "The Possibilities of Modifying Lightning Storms in the Northern Rockies," Northern Rocky Mountain Forest and Range Experiment Station Paper 19 (Missoula, Mont., 1949). The work continued into the 1950's and was formally established as Project Skyfire in 1953.

117. Memorandum, Crocker to Gisborne, May 25, 1948, Gisborne Papers. The

Gisborne Papers and other records provide a mass of documentation on Gisborne's caustic criticisms of the Weather Bureau. See his memoranda to the files, October 14, 1947; to Crocker, May 15, 1948, and to the Station Director and Regional Forester, August 17, 1948, as typical examples. On the other hand, he could be objective, as in his memorandum offering a "Statement of Policy and Practice," October 29, 1946, and an article on "Opportunities for Improving the Fire Weather Forecasts in the Northern Region," Northern Region News, March 4, 1948. Beginning in 1946, Gisborne began a campaign to have a surplus weather search radar erected on Mt. Spokane. The equipment was finally delivered and dedicated at a point in the Missoula area in 1961.

118. It was one of a number of professional honors that he received during his career. Among others were his elections as Fellow by the Society of American Foresters and the American Association for the Advancement of Science. Gisborne was also a member and officer of a number of professional and scientific organizations. Gisborne Papers.

119. Memorandum, Gisborne to Tebbe, March 3, 1948, Gisborne Papers.

120. Gisborne, longhand note dated June 3, 1941, Gisborne Papers.

121. The Mann Gulch tragedy was documented in a Board of Review report dated September 29, 1949, and an extensive number of other reports and memoranda, many of them to or from Gisborne, in the Gisborne Papers and Forest Service files, Missoula, Montana. The events also received a great deal of attention from the local and national press. The complete records of the incident are deposited at the Washington National Records Center and are well represented in Forest Service office files in Missoula, Montana, and Washington, D.C. Although the matter is tangential to

this history, the deaths of the men were due partly to the behavior of the fire and partly to their inexperience: they panicked and ran from the relative safety of a burned-over spot against a verbal order from their crew leader.

122. Tebbe interview. Nearly everyone interviewed for this history expressed awareness of Gisborne's heart condition beginning in the 1930's and its increasing severity. Hayes, in the 1976 interview, recalled chastising Gisborne about his incessant cigarette smoking, but without effect. Tebbe said that he once ordered Gisborne not to climb the meteorological tower, but he refrained only when Tebbe was present.

123. J. Robert Jansson, who was the Ranger accompanying Gisborne, reported the circumstances of his death in a memorandum to Tebbe, November 10, 1949, and in a statement for insurance purposes, November 18, 1949, Gisborne Papers. Gisborne had planned to retire 4 years later, when he was 60, after writing a roundup of data on fire behavior and fire control (memo to Tebbe dated March 24, 1948, Gisborne Papers).

124. Tebbe interview. Tebbe, Crocker, and a Forest Service pilot performed the rites on May 26, 1950. Also at Gisborne's request, his personal and professional papers passed into the custody of Wellner, with a view to their ultimate preservation. Wellner interview. They are now part of the Gisborne Papers in the University of Montana Library Archives.

125. Northern Region News, June 9, 1950, and July 13, 1951. The mountain previously had no official name but was commonly called Looking Glass Mountain after the lookout at its peak. The name Gisborne Mountain was ordained by the US Board on Geographic Names.

126. This interpretation partly follows that of Pyne, *Fire History*, chapter 8.